



Four Channel Pyroelectric Detector PS4x2C1-A-S1.4

Pyroelectric quad-channel current mode detector for NDIR gas analysis.

Active Area	4 x (0.7 x 0.325)	mm ²
Aperture	4 x (1.4 x 1.4)	mm ²
Mode	Current	
Time Constant $t_{(0-63\%)} \text{ thermal}$	typ. 10	ms
Time Constant $t_{(0-63\%)} \text{ electrical}$	typ. 1000	ms
AC Sensitivity ^{1,2,3}	typ. 125000	V/W
Noise Density Voltage ¹	typ. 35	$\mu\text{V}/\text{Hz}^{1/2}$
Noise Equivalent Power NEP ^{1,2,3}	typ. 2.8×10^{-10}	W/Hz ^{1/2}
Specific Detectivity D^* ^{1,2,3}	typ. 1.7×10^8	$\text{cmHz}^{1/2}/\text{W}$
Microphonic Voltage ¹	typ. 100	$\mu\text{V}/\text{g}$
Filling Gas	Kr	
Filters	Standard and customized filters on request. For more information please see document "infrared filters" and contact MHE.	
Operation Voltage VDD+	+2.7...+5	VDC
Operation Offset Voltage	0.1...(VDD+)-0.1	VDC
Operation Current	max. 1.1	mA
Feedback Resistor	10	GOhm
Feedback Capacitor	500	fF
Operation Temperature	-20 ... +70	°C
Mass	~1	g
Housing	T05	

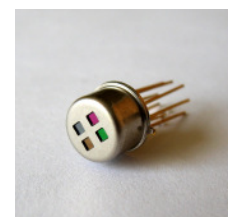
¹ at $T_{\text{amb}}=25 \text{ }^\circ\text{C}$, 10 Hz, band width 1 Hz

² Blackbody $T=500 \text{ K}$; $E=38 \text{ W}/\text{m}^2$

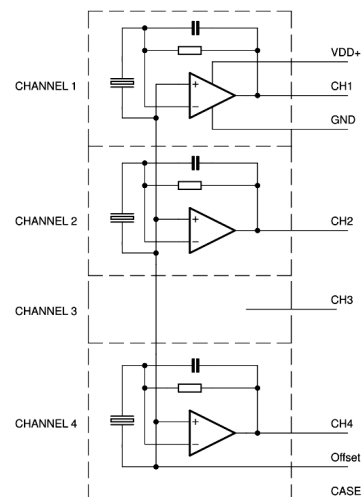
³ on air without windows



MICRO-HYBRID



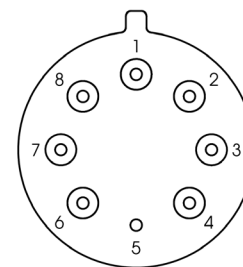
Equivalent Circuit



Pin Assignment

Bottom View

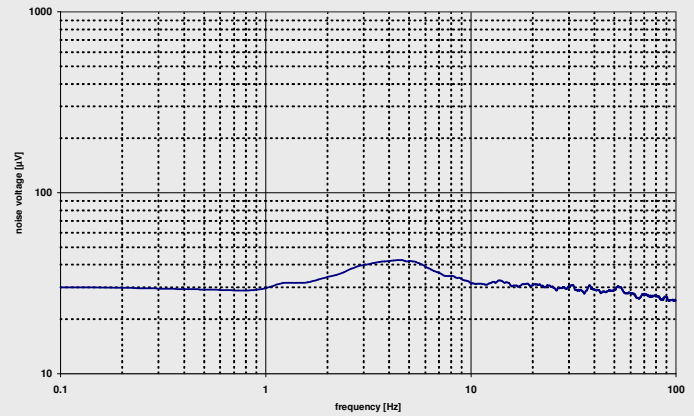
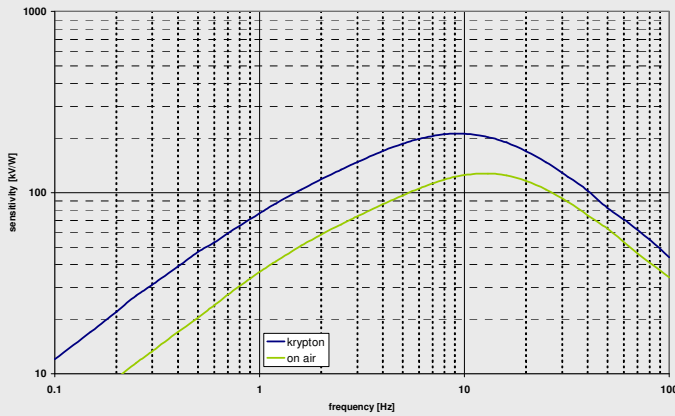
- Pin 1 Offset
- Pin 2 Output P1+
- Pin 3 Output P4+
- Pin 4 VDD+
- Pin 5 Case
- Pin 6 Output P3+
- Pin 7 Output P2+
- Pin 8 GND



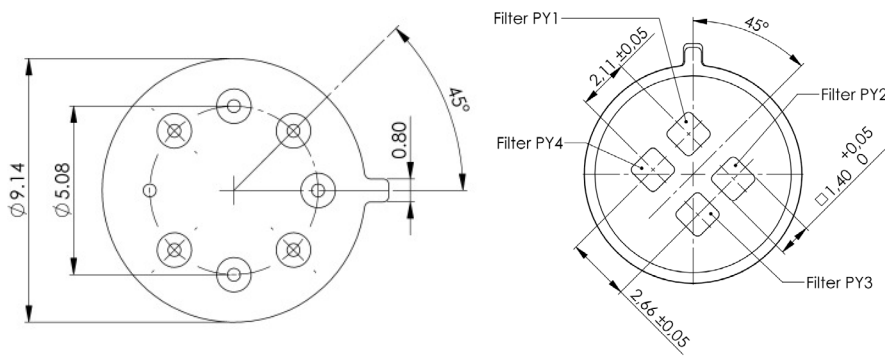
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Frequency Response



Housing



Ordering Information

PS4x2C1-A-S1.5-Filling Gas (GG)-Filters (H/H/H/H)

e.g PS4x2C1-A-S1.5-Kr-D1/E1/G1/H1

Optional parts

IR-Source JSIR 350 - Fast IR emitter based on thin film technology
Art.-Nr. 6353.01-3.01

Evaluation Kit - For independent evaluation of emitters and detectors
Art.-Nr. 7206.01-A.00